

ABSTRACT OF THE DISCLOSURE

An induction plasma torch comprises a tubular torch body, a gas distributor head located at the proximal end of the torch body for supplying at least one gaseous substance into the chamber within the torch body, a higher frequency power supply connected to a first induction coil mounted coaxial to the tubular torch body, a lower frequency solid state power supply connected to a plurality of second induction coils mounted coaxial to the tubular torch body between the first induction coil and the distal end of this torch body. The first induction coil provides the inductive energy necessary to ignite the gaseous substance to form a plasma. The second induction coils provide the working energy necessary to operate the plasma torch. The second induction coils can be connected to the solid state power supply in series and/or in parallel to match the impedance of this solid state power supply.